the Citrus Industry

Fuller Warren Holds Citrus Advisory Meetings

Governor-Designate Fuller Warren during recent weeks has held a number of meetings with citrus growers and his Citrus Advisory Committee at several central points in the Florida Citrus Belt.

These meetings have brought out two very significant points:

First — That a great majority of growers attending the meetings were in favor of a statewide over-all organization to supervise and control shipments of Florida's ever increasing production of citrus fruits;

Second — That a lesser, but still formidable, majority favored the proposed "taste test" for all citrus fruits going into out-of-state markets.

Governor-Elect Warren is a strong advocate of the "taste test" proposal. He has asserted at these meetings that he will bring the matter before the next meeting of the state legislature and urge its incorporation into Florida law.

One thing is certain — these meetings have demonstrated that the citrus growers of Florida are aroused as they have never been before, and are determined that something MUST and WILL be done to remedy present deplorable conditions in the citrus industry.

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Vol. 20, No. 11 November, 1948

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WILSON & TOOMER FERTILIZER COMPANY, JACKSONVILLE, FLORIDA

Florida Citrus Mutual Outlined...

James C. Morton, Organization Director, at Meeting Florida State Horticultural Society

The Florida Bankers Association in their report which followed their intensive and constructive study of the citrus industry called it a loose sprawling, rapidly expanding, unorganized, unhappy and sick industry. This was a very descriptive and true statement.

That the industry is still expanding is easily proven by consideration of the production figures for the last ten years. The amount of Florida citrus fruit utilized and marketed in the season of 1937-38 was 40 million boxes and in the season of 1947-48, ten years later, 91 million boxes. So, our production has expanded more rapidly than has our program for disposing of it profitably. The bankers were decidedly right when they called it a sick industry, because it is sick. Last season, and I quote Frank H. Scruggs, Market News Specialist of the Florida State Marketing Bureau, in the Annual Report released October 11, 1948; all oranges shipped as fresh fruit last year netted on the average to the growers of the State, 28 cents per box above cost of production out of which still had to be taken interest on investment, depreciation and taxes. For grapefruit, the figure was 36 cents per box and for tangerines, 40 cents per box. On fruit that was used for canning and processing in Florida, the grower netted for oranges, 3 cents per box as against the 28 cents in the fresh fruit market. On grapefruit, minus 19 cents per box, against the 36 cents in the fresh fruit market and on tangerines going to canneries, minus 60 cents per box against the 40 cents on those that were shipped fresh. All of these figures are after cost of production has been paid, but do not include deductions for interest, depreciation or taxes. For all fruit marketed, both fresh and in cans, we averaged for oranges 15 cents per box above cost of production, for grapefruit, minus one cent a box and for tangerines, 20 cents. The crop as a whole, including all varieties marketed fresh and in cans, netted the grower on average ten cents per box above cost of production with no deduction taken for taxes, depreciation on equipment or interest on investment. So, it can be very rightfully said that the industry is definitely sick. These are the figures for last year. Already we have begun another marketing season, and what are our prospects?

Drew Pearson, our noted Sunday evening news commentator, in his predictions of things to come, claims to be around 80 per cent accurate. This very remarkable record has been topped by the Florida Bankers Association, because the bankers, following the hearings, made this very definite prediction which is proving 100 per cent accurate and I quote:

"At this moment, there is little hope for even a cost of production price for the maturing Florida crop. The price situation looks dark, if this crop is to be marketed under the same procedure as the last two crops."

That this prediction is coming true is clearly indicated by a front page headline in the Orlando Sunday morning **Sentinel-Star** of only five days ago. The headline read ORANGE PRICES DRAG BOTTOM and reported that auctions had last week reached the lowest point of the new season. That the week's average was $2.96 for interior oranges on sales of more than 100,000 boxes through the terminals. That on Friday, the last sales day of the week, prices sank to $2.72 per box. In the same double column in the same newspaper was another article headed WIDOW PLEADS FOR HELP IN CITRUS CRISIS.

We have started another marketing season under the same procedure as the last two crops and the bankers' prediction is coming true. Everybody is asking, what is the matter with our industry, and some folks say it is overproduction. However, I am not yet willing to admit this because there never has been a test of our ability to market our crop profitably through orderly marketing procedures. The major part of last season's crop has been consumed and utilized, which is evidence that we are not beyond the capacity of the market. Our only difficulty is that it has been marketed in such a cut-throat, disorganized manner that there has been neither orderly distribution, as to time or place, and in consequence, growers have much less money than could have been had, had the marketing been organized and businesslike. A short time ago, I sat across the desk from the President of the New York Auction and he made this very definite statement: "if

(Continued on page 9)

LYCHEE NEWS

CITRUS MAN PLANTS LYCHEES

A well cared for orchard of 350 Lychee trees established on Merritt's Island by Mr. J. B. Pinkerton of City Point, Fla., should bear within the next several years.

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The Citrus Industry
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Issued Monthly
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Relation Of Packinghouse Practices[1] To Incidence Of Fruit Decay...

By
E. F. HOPKINS AND K. W. LOUCKS
CITRUS EXPERIMENT STATION
LAKE ALFRED

The decay problem in our citrus fruits is still with us. Losses from decay in Florida citrus are heavy and practically all this decay is caused by four species of fungi. There are two species responsible for stem-end rots, **Diplodia natalensis** and **Phomopsis citri** and two which give rise to blue and green molds, **Penicilluim italicium** and **P. digitatum**. None of these is of minor importance in causing decay. Usually when losses from stem-end rot are high those from mold are low and the reverse may be true.

If we go back about 40 years and examine the Proceedings of the Florida State Horticultural Society, we will find there discussions of the large losses due to decay which occurred at that time. Since those former years even with improvements in production and processing and more rapid transportation and distribution, the picture has not greatly improved.

To bring out the extent of decay in recent years, we have summarized the results of the check lots of oranges in all our experiments for the four seasons 1943-44 to 1946-47. In these experiments which extended over each season, the principal commercial varieties were used. Fruits were harvested both by pulling and clipping; some were given the ethylene coloring treatment ond others not as in commercial practice. The total number of fruits in these check lots only was 68,000.

The grand averages for decay after three weeks in storage in all these fruits were:

Stem-end rot 24.7%
Blue mold 16.0%
or Total decay 40.7%

There was some variation in the storage conditions under which the above lots of fruit were held but the mean values would not be far from 75° F. and relative humidity 75%. Even with considerable discounting (if that be necessary) to approach the losses that occur in commercial marketing, the total loss is enormous and a serious matter for the Florida citrus industry.

It is informative if we examine these experimental results further to see what happened to decay in that relatively short period. In 1943-44 the average total decay after three weeks storage was 23.3% in 1944-45 it was 46.8% in 1945-46 42.0% and in 1946-47 51.3%.

From this it is evident that the decay situation is not improving.

For these four seasons we have also averaged the percentages of stem-end rot and mold at fifteen day intervals throughout the season and built them into a chart (Figure 1). Again the results are for three weeks storage. It will be seen that in the early part of the season when fruit is being colored for from 60 to 70 hours stem-end rot infections are high because of the stimulating effect of the ethylene gas while mold infections are low due to a curing effect of the coloring room treatment. Later when the coloring process is discontinued or greatly reduced there is a sharp drop in stem-end rot and a marked increase in mold and the latter rises to a maximum from the middle of February to the middle of March.

To bring home to you what often happens I will cite a particular case. Pineapple oranges collected from a large commercial packinghouse in January 1948 were placed in storage. The fruits had received no ethylene treatment. The decay record showed:

After one week 31% mold

After two weeks 50% mold and 16% stem-end rot or total decay 66%

[1] Paper given at Citrus Growers Institute September 2, 1948. Cooperative investigation by the Citrus Experiment Station, Lake Alfred, Florida and the Florida Citrus Commission, Lakeland, Florida.

After three weeks 50% mold and 25% stem-end rot or total decay 82%

Effect of packinghouse processing on decay.

The four species of fungi previously mentioned are the actual causes of decay. There are, however, contributing factors which affect the ability of these organisms to gain entrance into the fruit. The coloring or degreening process with ethylene

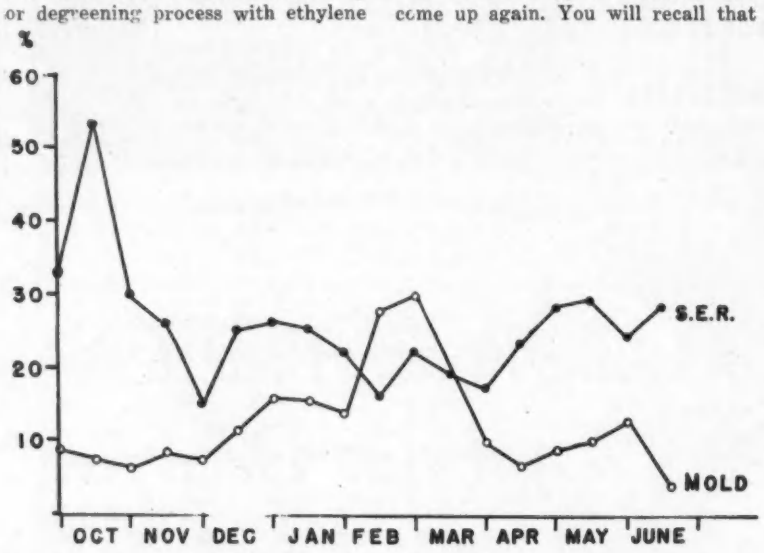

Figure 1.—Stem-end rot and mold decay in Florida oranges after three weeks storage. Average values for 4 season at 15 day intervals.

just referred to is one of these factors. The temperature and humidity under which the fruits are held are factors. Another important contributing factor to the incidence of decay is wounding. By this we mean cuts, punctures or other breaks in the fruit peel which expose the albedo and allow for the entrance of certain decay fungi, especially the blue and green molds.

Since these wounds are due to mechanical injury there has been a widespread belief that rough handling in the packinghouse machinery is responsible for a large fraction of the decay in Florida citrus fruit.

Because of this and also the lack of experimental data on this point a series of holding tests were carried out at the Citrus Experiment Station in the late winter and spring of 1943. During that period about the only fruits available were Valencia oranges; degreening was not resorted to and very little color-add treatment was used. A number of sets of samples were taken from each of six commercial houses at various points in the processing line. In all 12,000 oranges were examined for decay. Briefly, the results showed no significant increase in decay from one end of the processing line to the other. Based on three weeks holding the average amounts of total decay were:

Dump belt 27%
Grading belt 30%

The difference is not significant. Neither were significant effects found for Phomopsis stem-end rot, Diplodia stem-end rot nor for Penicillium mold infections.

More recently, the matter has come up again. You will recall that last year at one of the meetings of this Institute it was strongly intimated that packinghouses are responsible for most of the decay in Florida fruits, and that the Citrus Commission was asked to make an investigation of the extent of the damage.

Such an investigation covering the entire 1947-48 season has been made at the Citrus Experiment Station. This time more varieties of citrus were included as well as a variety of treatments such as coloring, color-add etc. The varieties sampled were Duncan, Marsh, Silver Cluster, and Excelsior grapefruit; Hamlin, Parson Brown, Pineapple, Valencia, Temple, Jaffa and Homosassa oranges, and tangerines. In all, 59 sets of samples taken from 23 packinghouses were collected and held in storage at the Citrus Station. There were 15,400 individual fruits under observation. In some instances samples were collected only at the dump belt and grading belt, in others at four points in the processing line in order to determine where the damage, if any, might have occurred.

A study of the extensive data obtained again shows that packinghouse processing is not responsible for the large percentage of decay in the marketing of Florida fruit. The average values for grapefruit which had relatively small amounts of decay in the 1947-48 season showed no significant difference between the dump belt and grading belt samples. The same was true for oranges in which the incidence of decay was high. Tangerines were the only fruits in which there appeared to be an increase in decay caused by the processing and this effect was confined to the final waxing and polishing operation. However, in this case the dump belt samples showed the high average of 58 percent of decay.

The results for all oranges, which constituted the bulk of the fruit studied, are shown in Figure 2. This graph represents the data ob-

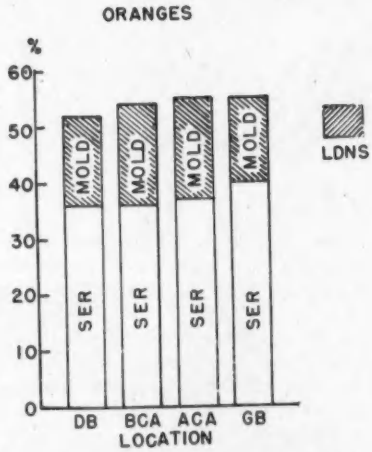

Figure 2.—Average percentage of total loss, stem-end rot, and mold in oranges taken from four locations in the packing house line.
DB=Dump belt.
BCA=Before color-add tank.
ACA=After color-add tank.
GB=Grading belt.
LDNS=Least difference necessary for significance at the 5% level.

tained from the examination of 10,000 oranges from 17 packinghouses. The amount of stem-end rot and mold for each of four locations in the processing are shown, the dump belt, before the color-add, after the color-add and the grading belt. It is not necessary to say that there is no significant effect of the packinghouse process on decay in these oranges.

It should not be concluded from these data that reasonable care in the handling of citrus fruits should not be observed. In fact there were a few cases where it appeared that some increase in decay in oranges was due to the processing. Tangerines apear to present a unique prob-

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Sixteen Years Of Costs And Returns...

By
Zach Savage
Associate Agricultural Economist
Florida Agricultural Experiment Station

The cooperation of many Florida citrus growers and the assistance of County Agricultural Agents of the citrus section have made it possible for the Florida Agricultural Extension Service to carry on this citrus costs and returns study for a number of years. The attached sheets show average costs and returns for 16 seasons, 1931-47. Costs only are shown for an additional season, 1947-48, since returns from all groves represented have not been compiled to date.

The cooperating growers sold their fruit in the 1946-47 season for 74 cents which was 38 percent of the price received for their previous crop. Each of the other four seasons since 1940-41 brought prices in excess of $1.00. The price received for the five-year period 1941-46 averaged $1.65. There were six seasons of the 16 with fruit prices lower than for the 1946-47 season.

Prior to the 1942-43 season there was only one season, 1938-39, when the number of boxes of fruit harvested averaged as much as 200 boxes per acre. Fruit harvested since that time, 1942-47, has ranged from 225 boxes in 1944-45, which was materially lowered by hurricane damage, to 305 boxes the preceding season of 1943-44. The average for this five-year period was 271 boxes, and the average was 154 boxes for the previous 11-year period of 1931-42. Some of the reasons for this increase in the number of boxes harvested per acre were increased average age of trees, better fertilization practices, higher percentage of fruit harvested due to good prices and the development in fruit processing, and the increased acreage irrigated may have been a factor.

The average number of boxes harvested in 1946-47 was 292 when 55 groves, or 25 percent, had yields in excess of 400 boxes per acre. The average of the 55 groves with lowest yields was 160 boxes per acre, less than one-third that of the high group. The range in boxes harvested per acre on all 219 groves was from 24 to 912.

The rare combination of good prices and high yields resulted in receipts exceeding $200.00 per acre during the past five seasons, 1942-47. Receipts for 1941-42 were $190.93, the highest of the first 11 years of these records. During six of these 11 seasons receipts averaged less than $88.00 per acre. Receipts averaged $425.72 per acre for the five-year period of 1942-47 and ranged from $215.98 in 1946-47 to $544.94 during the previous season of 1945-46. This average was four times the average receipts of $106.20 for the 11-year period of 1931-42.

Operating costs have increased rapidly since the 1941-42 season. Such costs of cooperators were $62.59 per acre in 1941-42 and increased each year until 1946-47 when they were $159.89 per acre. Operating costs in 1947-48 were only $1.53 less than in 1946-47. These costs in 1946-47 exceeded fruit receipts during any one of the nine seasons from 1942-41 and averaged $69.62, or 77 percent more.

The cost of labor, power, and equipment was $76.42 per acre in 1946-47, the highest of any year of these records. This item is the

SUMMARY OF FLORIDA CITRUS GROVE COSTS AND RETURNS CROPS MARKETED 1946-47 AND 1947-48

Item	1946-47		1947-48*	
	0 - 10 Years	11 - 50 Years	0 - 10 Years	11 - 51 Years
Number of Groves	16	219	20	232
Total Acres of Groves	505.78	7768.13	697.16	8040.43
Acres per Grove	32	35	35	35
Average Age	6	25	6	25
Trees per Acre	68	62	68	61
Percent Trees Grapefruit	18.1	30.9	10.9	30.8
Boxes Harvested per Acre	109	292		
Costs per Acre:				
Labor, Power, and Equipment	$ 57.83	$ 76.42	$ 56.71	$ 74.64
Fertilizer and Amendments	33.79	57.33	26.01	56.85
Spray and Dust Materials	4.53	12.47	4.31	10.34
Taxes (State and County)	2.02	6.03	3.03	8.83
Miscellaneous	9.46	7.64	2.77	7.08
Total Operating Cost	107.63	159.89	92.83	157.74
Interest on Grove Valuation @ 6%	25.80	39.12	24.49	40.00
Total Cost Excluding Owner's Supervision	133.43	199.01	117.32	197.74
Returns per Acre:				
Returns from Fruit	126.99	215.98		
Net Returns to Owner	—6.44	16.97		
Net Returns Above Operating Cost	19.36	56.09		
Costs per Box:				
Labor, Power, and Equipment	$ .53	.27		
Fertilizer and Amendments	.31	.20		
Spray and Dust Materials	.04	.04		
Taxes (State and County)	.02	.02		
Miscellaneous	.09	.02		
Total Operating Cost	.99	.55		
Interest on Grove Valuation @ 6%	.24	.13		
Total Cost Excluding Owner's Supervision	1.23	.68		
Returns per Box:				
Returns from Fruit	1.17	.74		
Net Returns to Owner	—.06	.06		
Net Returns Above Operating Cost	.18	.19		

* Returns not yet available.

highest of the production cost items. Among the 17 years of cost records, there were eight when cost for labor, power, and equipment was less than one-third of such cost for 1946-47, and thirteen years when such cost was less than one-half that for 1946-47. Many growers eliminated some operations in the 1947-48 season but the average cost of labor, power, and equipment was reduced only slightly below that of 1946-47 (from $76.42 to $74.64 per acre.) There were 10 seasons, 1932-42, when the total operating cost did not equal the cost of labor, power, and equipment for any one of the past three seasons, 1945-48. Labor, power, and equipment costs were 27 cents per box in 1946-47, the highest of any season.

The money spent for fertilizer and amendment materials was most in the 1946-47 season when it was $57.33 per acre. There were two seasons, 1933-35, when this cost was less than one-third this amount, and 10 seasons, 1932-42, when it was less than one-half this amount. Many growers reduced the fertilizer poundage for the 1947-48 crop but the increase in fertilizer and amendment prices almost offset this reduction. There were five seasons, 1933-37 and 1939-40, when the total operating costs did not equal the fertilizer and amendment costs for either of the past two seasons, 1946-48. The latter costs were 20 cents per box in the 1946-47 season. There were two seasons, 1931-32 and 1944-45, when such costs were higher on a per-box basis.

The range in money spent for fertilizer and amendments was $23.31 to $177.97 per acre. The 55 groves, 25 percent, with lowest fertilizer cost averaged $42.58 per acre spent for fertilizer, and the 55 groves with highest fertilizer cost averaged $92.90. The number of boxes harvested for the two groups averaged 224 and 387 per acre respectively.

Spray and dust materials are of lesser importance than either labor, power, and equipment or fertilizer and amendment materials from the standpoint of costs, and such costs were only 8 percent of the total operating costs in 1946-47. The cost of these materials was $12.47 per acre that season. However, the cost of spray and dust materials average less than half the total cost of insect and disease control measures as the cost of application

(Continued on page 18)

SUMMARY OF COSTS AND RETURNS PER ACRE AND PER BOX FOR GROVES AVERAGING OVER 10 YEARS OF AGE

	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
Number of grove records	45	99	182	211	254	272	270	261	262	266	262	240	222	221	205
% Record acreage of state bearing acreage	0.2	1.4	2.2	2.2	2.7	2.8	2.8	2.8	2.8	2.9	2.7	2.3	2.1	2.1	1.9
Total acres of records	5865	3604	6269	6499	8221	8766	8869	9381	9303	9853	9372	8463	7913	7730	7221
Average acres per grove	13	36	34	31	32	32	33	36	36	37	36	35	36	35	35
Average age	17	18	17	18	18	18	19	19	20	20	21	22	23	23	24
Number of trees per acre	63	58	58	58	59	60	59	60	60	61	61	61	62	62	62
Percent trees grapefruit	28	31	32	35	32	30	29	32	32	32	32	32	31	31	31
Boxes harvested per acre	169	133	92	121	114	138	138	205	179	199	187	257	305	225	277
Costs per acre:															
Labor, power, and equipment	31.71	25.27	$ 19.66	$ 17.33	$ 19.54	$ 21.72	$ 23.08	$ 22.47	$ 22.25	$ 26.42	$ 28.23	$ 29.31	$ 37.27	$ 48.28	$ 63.89
Fertilizer and amendments	37.92	22.89	17.73	18.94	19.22	21.80	26.95	26.70	19.90	20.73	21.50	32.42	41.16	48.73	52.38
Spray and dust materials	3.98	3.38	3.13	3.14	2.99	3.81	4.85	4.85	4.67	5.55	6.07	7.40	6.53	9.55	8.16
State and county taxes	11.76	4.92	5.10	4.96	5.66	5.75	5.04	4.40	4.57	4.41	4.39	4.07	4.75	4.18	4.74
Miscellaneous	.89	1.44	1.61	.53	2.49	1.79	1.71	2.05	2.06	2.96	2.10	4.70	4.92	7.53	8.24
Total operating costs	86.26	57.90	47.23	44.90	49.90	54.87	61.63	60.47	53.45	60.07	62.59	77.90	94.61	118.27	137.61
Interest on grove valuation @ 6%	46.69	37.21	36.33	36.12	33.12	32.73	32.30	29.28	29.46	28.87	29.41	29.79	29.89	31.94	31.72
Total cost without owner's supervision	132.95	95.11	83.56	81.03	83.02	87.60	93.93	89.75	82.91	88.94	92.00	107.69	124.50	150.21	169.33
Returns per acre:															
Return from fruit	164.82	49.96	68.21	68.99	115.13	144.10	87.77	81.29	85.39	111.57	190.93	393.24	519.68	454.69	544.94
Net returns	31.87	--45.15	--15.35	--12.04	32.11	56.50	--6.16	--8.46	2.48	22.63	98.93	285.55	395.18	304.48	375.61
Net returns above operating costs	78.56	--7.94	20.98	24.09	65.23	89.23	26.14	20.82	31.94	51.50	128.34	315.34	425.07	336.42	407.33
Costs per box:															
Labor, power, and equipment	.19	.19	.21	.14	.17	.16	.15	.11	.12	.13	.15	.11	.12	.21	.23
Fertilizer and amendments	.22	.17	.19	.16	.17	.16	.17	.14	.11	.11	.12	.13	.13	.21	.19
Spray and dust materials	.02	.03	.03	.03	.03	.03	.03	.02	.03	.03	.03	.03	.03	.04	.03
State and county taxes	.07	.04	.06	.04	.05	.04	.03	.02	.03	.02	.02	.01	.02	.02	.02
Miscellaneous	.01	.01	.02	.02	.02	.01	.01	.01	.01	.01	.01	.02	.02	.04	.03
Total operating costs	.51	.44	.51	.37	.44	.40	.39	.30	.30	.30	.32	.30	.31	.52	.50
Interest on grove valuation @ 6%	.27	.28	.40	.30	.29	.23	.21	.14	.16	.15	.16	.12	.10	.14	.11
Total cost without owner's supervision	.78	.72	.91	.67	.73	.63	.69	.44	.46	.45	.49	.42	.41	.66	.61
Returns per box:															
Returns from fruit	.97	.38	.74	.57	1.01	1.04	.56	.40	.47	.56	1.02	1.53	1.71	2.02	1.97
Net returns	.19	--.34	--.17	--.10	.28	.41	--.04	--.04	.01	.11	.53	1.11	1.30	1.36	1.36
Net returns above operating costs	.46	--.06	.23	.20	.57	.64	.17	.10	.17	.26	.69	1.23	1.40	1.50	1.47

FLORIDA CITRUS MUTUAL OUTLINED

(Continued from page 3)

there was orderly marketing of Florida citrus crop through organization, the New York Auction would not only get more money for the fruit but would sell more fruit at the higher price, because of the confidence the trade would have in our marketing procedures." This again leads me to quote the Bankers' Report where they say:

"The brokers and dealers in the market have no confidence in the stability of Florida citrus prices or the system under which our fruit is sold, because there is no coordination or control of movement of fruit to markets. As a result, many markets are frequently and almost regularly overloaded with disastrous results to the price structure."

The major needs of the Florida citrus industry may be very briefly stated:

1. Control of the quality of the fruit shipped, both fresh and canned.

2. Control of the fruit to market, both fresh and canned.

With these adequately and effectively put into operation, many of our current citrus problems would be solved, and the only way that these can be developed and put into practical service is through organization and that means organization of citrus growers under the protection of the Capper Volstead Act.

In 1945-46 for the 86 million boxes sold, the growers received 236 million dollars. In 1946-47, the production was 83 million boxes for which we received 146 million dollars, and in 1947-48, we marketed 91 million boxes for which we received 114 million dollars. So, in the 1946-47 season, we received 90 million dollars less for our fruit than we did during the season of 1945-46, and in 1947-48 we received 122 million dolars less than we did for the crop of 1945-46. That means for the past two seasons there was a total of 212 million dollars lost to the citrus growers of Florida and that money rightfully belonged in the pockets of the growers. Packers and processors, crate manufacturers, pickers and haulers, transportation companies, all were paid and the grower had what was left. We will continue to take these losses until we unite in a program to avert them. The only person who can correct this situation is the grower. Until growers join together in an organization to insist on proper business practices in our industry, these losses will occur regularly, sometimes being less, sometimes being more, depending on market conditions, but always securing less than we could, if our marketing procedures were organized and stable.

Some proposals are being made for additional state legislation, applicable to the citrus industry, and with many of these we could have no quarrel. However, there are three handicaps to this idea; first, state legislation is limited in its application and legal power; second, there is no guarantee of what a state legislature will do, and three, the legislature meets too late in the Spring to be of any immediate help in the present plight. Unless growers unite and do it speedily, they may lose 10 million dollars per month in the coming marketing season. This means not only less to citrus growers but a tremendous loss to every business in citrus Florida. Three days ago, I ate lunch with a group of businessmen, everyone of whom was complaining about the effect of the present low prices of citrus on his particular business. The group included the owner of a large book and office supply house, a barber, an automobile salesman, a motion picture theater executive and an insurance man, all were complaining about the slump in business. They very definitely blamed the citrus industry. The whole economy of the State is affected and this can be readily understood. We lost one hundred million dollars a year during the last two years. Economists tell us that this money which comes into Florida in exchange for our fruit, turns over from five to seven times in those citrus communities. Multiply this one hundred million by five and you find that in each of the last two years, there has been ½ billion dollars less business transacted in citrus Florida. Let us view it from another angle that brings it sharply into focus. Our marketing season averages eight months. For easy figuring take twenty-five working days per month and eight times twenty-five gives us two hundred working days in which we lose 100 million dollars. Divide 100 million dollars by 200 and the loss is ½ million dollars per day to the citrus growers of the State. What are we going to do about it? There is one answer and one only, and that is, that citrus growers must organize, join together and use the protection given them by the Capper Volstead Act. This will enable them to do all the things good judgment finds necessary to bring back prosperity. Why stand on the street corner berating the Citrus Commission, the shipper, the canner, the auction market, the dealer and the distributor. This is a futile and worthless expenditure of time and energy. All we have to do is organize as a grower organization and take our rightful control of the situation. How can this be done? It can be done through Florida Citrus Mutual, a grower owned and grower controlled organization which will be put into operation just as soon as 75% of the growers of the State sign grower contracts. This being done, the growers will immediately elect their own board of directors who will use such of the powers granted in the charter as in their judgment may be needed to improve conditions. This requires no immediate need of legislation. If growers would speedily take advantage of it, it could be put into operation at a very early date, in time to practically and very effectively aid in the current season. But, let me issue this warning, time is fleeting. The days go rapidly by. Many growers, shippers and canners have already signed, but not enough growers to yet put the plan into operation. However, this could be done by the middle of November if the growers so desire it. Following the 75% sign-up, less than one month would be required for growers to elect their own board of directors. Meanwhile, plans and procedures can be prepared for the Board's consideration so that they may put them into effect as speedily as possible and certainly not later than the First of January, confidence could be restored to Florida State marketing that would almost overnight effect a helpful stabilization in prices.

Let me again quote the report of the Florida Bankers Association:

"We favor the principles of the Florida Citrus Mutual and we recommend, we urge, the growers of Florida to consider the contracts and put it into operation at the earliest possible moment. We recommend it on the further promise that the industry has everything to gain and absolutely nothing

(Continued on page 18)

The Citrus Industry

with which is merged The Citrus Leaf
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WANTS EARLY ORANGE THAT'S REALLY EARLY

A gentleman who is well known in Florida citrus circles and who has the confidence of many growers, dropped into this office the other day for a discussion of Florida's citrus ills.

After binding us to inviolable secrecy as to name, place of residence, age and other purely personal attributes, saying that he already had enough troubles without engaging in a statewide controversy which might involve too much valuable time, he proceeded to unburden himself as follows:

"To begin with let me say that I am wholeheartedly in favor of the Florida Citrus Mutual. I believe it to be the one promising feature of the present citrus fruit situation in the state. As a purely grower organization, it affords the growers their one opportunity to conduct and control their own affairs in their own way. I hope to see the requisite tonnage of fruit signed up in the shortest time possible. Indeed, that tonnage should have been signed up long ago.

"With Florida Citrus Mutual once in operation, it will be possible for the growers to not only control shipments but to control quality of those shipments, the time of shipment and the quantity of shipments. That will go a long way toward solving our marketing problems and tend to increase the price of our product.

"Then, after we have the Mutual working, we have another problem confronting us — that is the quality of our early fruit, or rather the lack of quality of our early fruit. Farbeit from me to advocate an increase in the varieties of our citrus fruits — we already have entirely too many, what with our Valencias, pineapples, Hamlins, Parson Browns, Walkers, Lue Gim Gongs, Temples, tangerines, and what have you. With all those varieties we haven't a really early orange that is fit to eat, yet we keep right on shipping them to Northern markets in September, or as this year, in August. We haven't as many varieties of grapefruit, but we have enough and we pay too little attention to quality.

"What we really need is the development on a large scale of an orange to bridge the gap between the end of the valencia shipping season and the opening of the autumn shipping season — an orange which is not only really early but is also really fit to eat. We need this particularly now that the rapidly increasing orange production in Texas is giving us competition in markets which we have long considered our own. Even this year, when we began shipping oranges in early September, Texas beat us to the punch and, according to Northern buyers, their early fruit was better than our early offerings.

"If we could get rid of all our Hamlins, Parson Browns and other early varieties of insipid taste and supplant them with fruit which will mature early and still have the true orange flavor the Florida Citrus Mutual would have a much easier job on its hands in its aim to put the industry on a basis where the grower might reasonably expect to receive at least cost of production returns for his fruit.

"I understand that certain Florida nurserymen are now concentrating their efforts along this line, that there is now promise that trees are being propagated which will shorten the period between the shipment of valencias and the rush to get our Hamlins onto the early market. If this is true, if such fruit is really mature at shipping time, and if we could get rid of our Hamlin and Parson Brown groves and transplant them to the new variety, the future of the citrus industry in Florida would be much brighter than it is today.

"But, first of all, let's all join up with Florida Citrus Mutual and work with our fellow growers to bring some sort of order out of present disorderly and disastrous marketing conditions."

Being more familiar with the making of a citrus publication than with the solution of the industry's manifold problems, we present this grower's ideas with the thought that it may be worthy of consideration and that it may stimulate thought on the part of others which may result in benefit to the industry.

FLORIDA STATE HORTICULTURAL SOCIETY

The Sixty-Second Annual Meeting of the Florida State Horticultural Society held at West Palm Beach during the closing days of October was one of the most successful of recent years. An excellent program in which many of the best informed minds in the state and nation passed on that information to their hearers was presented.

At the close of the meeting, Frank Stirling of Fort Lauderdale, one of the prominent citrus growers of the state, was elected president, succeeding W. F. Ward, prominent grower and nurseryman of Avon Park. Dr. Ralph L. Miller of Plymouth, who has previously served as secretary, was chosen to fill the additional capacity of treasurer. Leaders among the industry from all sections of the state were named as directors of the Society, assuring its continued importance and value to the horticulturists of of Florida, particularly to the citrus growers.

Florida citrus growers are this year producing the best quality citrus fruit that they have produced in years. Now all we need is orderly and controlled marketing. The Florida Citrus Mutual can give growers just that.

Plantings of Citrus Decline Slightly, But Remain Heavy...

Citrus plantings in Florida continue at a heavy rate, although the estimated movement in nursery stock has declined somewhat during the past year, it was revealed in a report released by Arthur C. Brown, commissioner for the State Plant Board.

Movement of nursery stock during 1947-48 reached the estimated total of 915,923, off more than 200,000 from the 1,196,860 reported for 1946-47. The plant commissioner explained that complete tabulation of the 1947-48 figures will require some time yet.

The plant board requires each shipment of plants to be accompanied by a certificate of inspection, which is reported to W. H. Merrill, the board's nursery inspector at Gainesville. The board has compiled nursery inspection records each year since the 1928-29 season.

Other Heavy Years

The 1946-47 movement was the heaviest since the 1928-29 season, when 1,362,538 trees went from nurseries to groves in Florida. In only five years, 1928-29, 1936-37, 1937-38, 1945-46 and 1946-47, has this movement exceeded a million trees.

In the 1946-47 season, the last one for which tabulation has been completed, oranges led with 728,-882. Of this number 329,089 were Valencias, 120,249 Hamlins, 87,517 Parson Browns, 77,952 Pineapples, and 22,459 Lue Gim Gongs. Miscellaneous varieties made up the remainder of the orange movement.

Grapefruit nursery trees moved during 1946-47 numbered 281,637. Among varieties, Thompson pink led with 81,035, followed by Duncan 61,912, Marsh seedless 59,069, and Henninger Ruby 45, 958.

Heavy Tangerine Movement

The movement of tangerines. 22,-349, was the largest since 1929-30, when 45,302 were reported. The number of Temple oranges moved last year, 92,192, was the largest since the records were started.

The board's inspectors examine nurseries and estimate the number of seedlings grown in them. The inspectors estimated 868,273 seedlings on hand in 1947-48, as compared with 2,976,542 in 1946-47, 2,685,744 in 1944-45, and 1,699,-545 in 1943-44. Brown says the drop in number of seedlings growing in nurseries is significant.

A new 4-H club for boys was organized recently in the Santa Fe community under the direction of T .H. McRorie, jr., assistant Alachua County agent.

The Time is at Hand...

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Tristeza Disease In Java....

J. J. OCHSE
University of Miami, at Meeting Florida State Horticultural Society

Florida horticulturists and citrus growers are well aware of the danger of Quick Decline diseases to the groves that are the backbone of the state's agriculture. In one of his last articles about the Tristeza disease in The Proceedings of the Florida State Horticultural Society, Dr. Walter Swingle wrote: It is important for citrus growers to be given as promptly as possible information as to stock adapted to all localities so that if any new rootstock trouble does appear they will know promptly what stocks are best for replacement. It is quite possible that State and Federal Experiment Stations might be able to work out techniques for replacement of rootstocks that are beginning to fail.

Because of the concern of men like Dr. Swingle, I believe my observation in Java may be of interest to citrus specialists in Florida. For a long time Indonesia has had a disease with about the same symptoms as Triesteza and though horticulturists never definitely learned its exact cause, they did develop trees which successfully resisted the disease.

When I arrived in Java in 1914, all citrus trees were obtained by marcots and seed. Oranges, shaddocks mandarins, limes, lemons, and citrons occurred locally all over Indonesia. Most of the Oranges, mandarins, lemons and citrons grew at about 3000 feet above sea level and the shaddocks and some special lowland mandarins between sea level and 500 feet above.

To insure faster and better propagations, horticulturists started budding in 1915 and since shaddocks produced the best growing seedlings, they used shaddock as a stock. However, within a year's time, all oranges, mandarins, and lemons (most Khatta's) budded on shaddock stock died in a chlorotic condition. This was ascribed to normal incompatibility.

Then we obtained rough lemon (citronella) seeds from Australia, and in the years after 1920, we budded all local oranges, mandarins, shaddocks, and imported orange varieties on rough lemon stock.

At the same time, I tried a very abundant fruiting sour mandarin as a stock. This stock, which grew a bit more slowly but produced when used as a stock, a better quality fruit than rough lemon, was established by that time under the name of Japanese lemon. In some mountainous regions above 3000 feet, with a rainfall of about a hundred inches a year, gummosis occurred and attacked the sweet oranges on their own roots and also those on stocks of rough lemon and Japanese lemon.

About 1930, we ordered from Florida new collections of oranges on sour stock and a large quantity of sour orange seeds. All imported oranges on sour orange stock died within two years after being planted. Some imported grape fruits on sour stock, like Marsh Seedless, Duncan,

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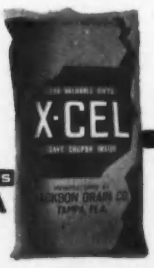

SINCE 1909
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McCarty, and Triumph, reached a height of 5 feet, but stopped growing, turned yellow, and began dying slowly.

Budding experiments on sour orange grown from imported seeds gave no better results. During the last twenty five years in Indonesia, the so-called Japanese lemon has always given very good results—second only to rough lemon.

The Japanese lemon stock was not a strong grower, but it gave fruits of very good quality, already 3-4 years after budding with different orange varieties. Mandarins, and shaddock varieties a year later, with the exception of one very good variety of a Chinese mandarin with a thin skin, which fruited as a rule 3 years after budding. It is highly probable that this so-called Japaneese lemon is identical with the Rangur lime, described by Webber and Batchelor in The Citrus Industry on pp. 619 and 626-628.

On page 60 of my book, Fruit and Fruit Culture in the Dutch East Indies, 1931, I wrote that the Japanese lemon may be considered one of the forms of the Jambhiri group, described by Bonavis in his book, Oranges and Lemons of India and Ceylon, p. 60.

It has a very sour pulp. The peel does not separate as easily as in most forms of Citrus nobilis: in this respect it resembles the King Orange Citrus nobilis. our, var typica (Fruits and fruit culture in the Dutch East Indies) in India the Jambhiri group has also been proved to possess excellent qualities as a stock.

My conclusions do not agree with those of Dr. Bitancourt, the Director do Instituto Biologico de Sao Paulo in Brazil, who remarked to Dr. Webber (see The Citrus Industry p. 627) that the Rangpur lime some fifteen years ago was one of the most commonly used rootstocks in Brazil. Its popularity was due primarily to its general use by nurserymen who favored it because of its rapidity of growth and the ease with which goodsized nursery buddings could be produced. Subsequent experience showed that the budded trees grew well for several years, then gradually slowed down in growth and declined. Thus in Brazil the Rangpur is no longer considered to be a satisfactory rootstock. According to Schultz (The Citrus Industry, p. 627), the Rangpur lime has given promising results as a rootstock in tests made by the Agricultural Experiment Station at Tucuman, Argentine, with

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scion varieties of sweet orange, mandarin orange, and grapefruit. In comparison with trees grown on such rootstocks as sour orange, grapefruit, rough lemon, and trifoliate orange, the trees on Rangpur lime roots exhibited greater vigor and greater resistance to hot winds and drought, were more precocious and fruitful, and matured their crops earlier. These results, recorded in 1938, were based on young trees planted in 1933, Schultz reported the results as only preliminary.

Results from similar studies in Indonesia have been even more convincing. From 1920 until the Japanese invasion, Rangpur lime proved a very satisfactory stock in different parts of Indonesia. Hence, considering the threat of Tristeza or Quick Decline diseases to citrus-growing countries which have thus far escaped them, it seems important to remember that the Japanese lemon or Rangpur lime has proved saticfactory in tropical countries with a marked infestation of Tristeza. Another great advantage of the Rangpur lime is that it apparently reproduces nearly true to type from seed. The colored drawing in my book, Fruit and Fruit Culture in the Dutch East Indies, gives an accurate picture of the fruit as it appears in Java.

We tested in later years many other citrus species and hybrids besides the Japanese lemon. At this moment I'm still not sure what plantings in the experimental plots survived the Japanese occupation of Java. One species, which had already given promising results two years before World War II, was a sour orange type, which was imported from the botanical garden in Paradenija, Ceylon. Until the outbreak of war in Java, sweet oranges and mandarins grown on this stock had no signs of Tristeza.

This last information I got from Dr. G. J. A. Terra, my successor as head of the division of horticulture in Java in 1937, who was in Miami in 1947 on a study inspection in the United States on drought resistant annuals.

Another stock tried in Java some years ago was the Cleopatra mandarin. Buddings from sweet oranges on the Cleopatra mandarin remained in healthy condition, but our interest diminished, because the Cleopatra mandarin was a very slow grower at 3000 feet. That is the height above sea level most of our mandarins are cultivated.

Sources And Distribution Of Citrus Juices....

Where and what kind and type of citrus juices were bought during the 1946-47 season by more than 2,000 chain-store and wholesale-grocer buyers is covered in a report recently issued by the Farm Credit Administration, U. S. Department of Agriculture.

In answer to the query on what type of citrus juices were purchased, buyers reported that almost three-fourths of their grapefruit juice was unsweetened. Approximately one-fourth of the grapefruit juice and nearly one-half of the orange and blended juice was sweetened.

Citrus juice purchases were confined chiefly to canned single-strength juices. Only a small number of buyers mentioned taking canned or frozen citrus concentrates or frozen single-strength citrus juices.

In general, the buying reflected the production pattern. Over 76 percent of the reported wholesale purchases of the three major citrus juices — grapefruit, orange, and blended — came from Florida, which produced slightly over three-fourths of the total United States production. Texas, with a production of a little over 18 percent of the total, furnished 16 percent in this survey. California-Arizona with 6 percent production figure, showed up as furnishing nearly 8 percent represented here.

Buyers replying to the questions in this study purchased on an actual case basis more than 27.8 million cases of grapefruit, orange, blended, tangerine, and lemon juices in 1946-47. That represents more than half the United States total production. Since cooperatives produced nearly a third of all citrus juices processed during that season, they represent a major factor in the citrus industry.

This report, Sources and Distribution of Citrus Juices Purchased by Wholesale Buyers, 1946-47, is issued as Farm Credit Administration Miscellaneous Report 121. The survey on which the report is based was made under the Research and Marketing Act.

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Relation of Packinghouse Practices to Incidence of Fruit Decay

(Continued from page 6)

lem which needs further investigation but for other citrus fruits the overall picture idicated that the amount of decay is not influenced by processing

There still remains the picking operation and the ethylene gas coloring treatment as important factors in decay. It is well known that careless picking with resulting clipper cuts, stem punctures and plugging and other injuries sustained in packing and shipping the fruit tends to increase decay by Penicillium molds. While care in these operations should be practiced it will not

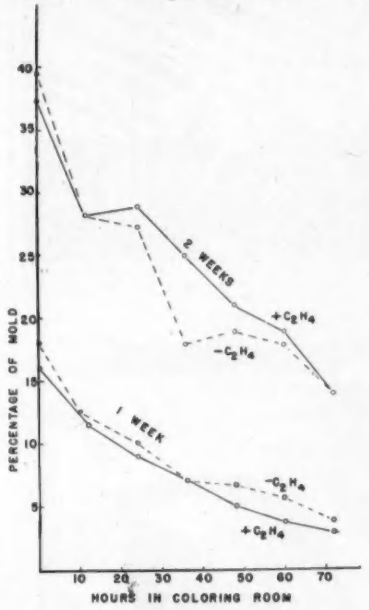

Figure 3.—Effect of coloring room treatments, with ethylene and without ethlene (curing), on Penicillium mold infections in oranges.

prevent large losses by stem-end rot. In regard to ethylene which is considered essential for coloring fruit there seems at present to be no means of avoiding the increase in stem-end rot for which it is responsible.

Now I would like to consider briefly some experimental work we have carried out that may lead to a packinghouse operation which will decrease the amount of decay. It is concerned with a curing process.

Some years back citrus did not progress so rapidly from the picking to the packing operation as now. It was considered essential that the fruits undergo a curing period lasting from one to several days before being packed. Apparently, one purpose of the curing operation was

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to allow some shrinkage of the fruit before packing so as to avoid slack packs. However, it was also considered that the drying which occurred during curing rendered the fruits less susceptible to mold infections. Since that time the matter of curing citrus fruits seems to have been forgotten.

In carrying out some experiments for other purposes, namely, to determine if the increased stem-end rot induced by the coloring room treatment was due to the ethylene gas or merely to the high temperature and humidity, we noted in every trial a marked reduction in mold infection. This was true either

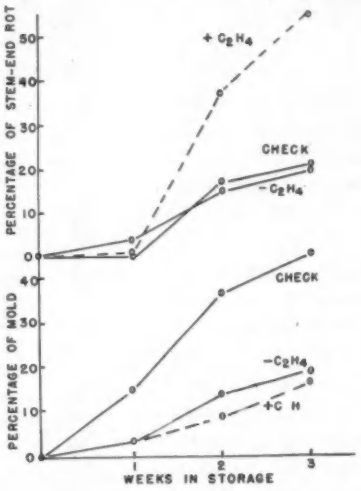

Figure 4. — Effect of coloring room treatments for 72 hours with and without ethylene and stem-end rot and mold infections. Valencia oranges.

with or without ethylene. Comparison was made with untreated checks.

Time will not allow for a description of the methods or details of the many experiments performed in a further study of this curing effect. The results can be shown graphically on the charts we have prepared. Figure 3 shows how the percentage of blue and green mold infections decreased as the time in the coloring rooms increased from zero to 72 hours. The average results are given for both one week and for two weeks in storage. The solid line represents fruit from the room with ethylene and the broken line from the one with no ethylene. Points at the upper left on each curve represent oranges placed directly in the storage room without treatment.

Figure 4 shows what happens to decay in Valencia oranges cured for 72 hours as compared with check lots. Mold is shown in the lower half of the chart and stem-end rot in the upper half. It is important to note that while the ethylene treatment holds down mold decay it greatly increases stem-end rot. Without ethylene mold decay is also decreased but stem-end rot is not increased. This latter treatment was designating curing.

The experiments on curing extended throughout the 1947-48 season. Hamlin, Parson Brown, Pineapple and Valencia oranges were used and in every test marked reduction of mold decay resulted. Curing of artificially wounded oranges gave particularly striking reduction of mold. In one typical experiment, the uncured fruits developed 41% mold in six days while those cured showed only 5% of side infections by Diplodia and no Penicillium mold decay. In the cured fruits most of the wounds had healed over. Peel burn of the fruit caused by certain chemical treatments was also prevented by curing the fruits for 72 hours. Commercial runs in cooperation with a large packinghouse near the end of the Valencia season reduced decay 40% to 50%.

Further experimentation is necessary to find the best conditions for curing but it appears that this process will be of great value in reducing mold after the close of the degreening season.

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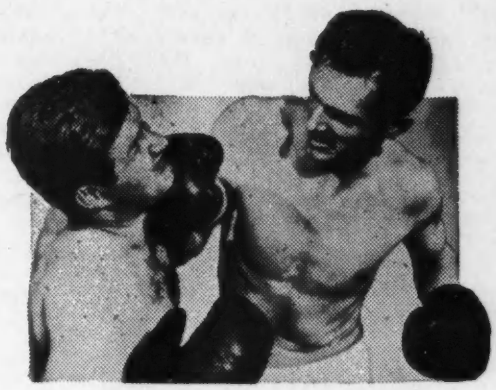

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It has been our business for a long time to know just what sort of a diet will be required in your grove to maintain sound, healthy trees and to aid in producing big crops of fine quality fruit.

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Our customers are aware of this fact, which we believe accounts for the fact that most of them purchase their fertilizer requirements from us year after year.

We'd like to remind you, too, that our fertilizer is delivered to your groves when you need it by our own fleet of trucks.

Florida FFF **Favorite**
FERTILIZER, INC.

Old Tampa Road **Lakeland, Florida**

SIXTEEN YEARS OF COSTS AND RETURNS

(Continued from page 8)

averages from one to one and one-half times material costs. Spray and dust material cost was 4 cents per box in 1946-47. This cost was as high in only one other season, 1944-45.

State and county taxes have increased during recent seasons on a per-acre basis but have remained about constant on a per-box basis. The item of miscellaneous cost is relatively unimportant. It includes such costs as frost protection, general overhead, fireguard work, and tree replacements.

Returns above operating costs were reduced from $407.33 per acre in 1945-46 to $56.09 the following season, a drop of 86 percent. Yet seven of the 16 seasons showed lower returns above operating costs than in 1946-47. At the average returns from these groves in 1946-47 of $56.09 per acre, 44.6 acres of grove would be necessary to return $2500.00 to the owner for interest on the grove investment, his own supervision, and profit, if any. Of the 219 groves in 1946-47 there were 59, or 27 percent, that failed to return operating costs, and there was a total of 101 groves, or 46 percent, with net returns above operating costs of less than $50.00 per acre. The net returns from the remaining 118 groves ranged from $50.01 to $799.15. The range in net returns above operating costs for all groves for the season was from (minus)—$387.01 to $799.15.

The returns from fruit were $215.98 per acre in 1946-47. With returns of this amount there would have been only four of the 17 seasons, 1944-48, when the returns above operating cost would have been less than $100.00 per acre. The returns above operating costs for 1946-47 were only $56.09 due to high costs. There were nine of the 16 seasons of these cost and return records when the operating cost figure of 1946-47, $159.89, exceeded the returns from fruit for the season. This fact that over half of the seasons of these records would have shown a loss if operating costs had been equivalent to the 1946-47 average figure is another reason growers should strive for higher grove efficiency as well as better fruit prices. Actually there were 59 or 27 percent of the 219 groves of these records that failed to return operating costs in 1946-47.

In view of the prospects for continued low prices for fruit and high costs for labor, power, and equipment, fertilizer, and spray materials, production practices should be studied to increase grove efficiency and hold down production costs consistent with high yields, good fruit quality, maintenance of trees in good condition, and prospective income from fruit.

SUMMARY OF COSTS AND RETURNS PER ACRE AND PER BOX FOR GROVES AVERAGING OVER 10 YEARS OF AGE

	1946-47	1947-48*
Number of grove records	219	232
% Record acreage of state bearing acreage	1.9	2.0
Total acres of records	7768	8040
Average acres per grove	35	35
Average age	25	25
Number of trees per acre	62	61
Percent trees grapefruit	31	31
Boxes harvested per acre	292	
Costs per acre:		
Labor, power, and equipment	$ 76.42	$ 74.64
Fertilizer and amendments	57.33	56.85
Spray and dust materials	12.47	10.34
State and county taxes	6.03	8.83
Miscellaneous	7.64	7.08
Total operating costs	159.89	157.74
Interest on grove valuation @ 6%	39.12	40.00
Total cost without owner's supervision	199.01	197.74
Returns per acre:		
Returns from fruit	215.98	
Net returns	16.97	
Net returns above operating costs	56.09	
Costs per box:		
Labor, power, and equipment	.27	
Fertilizer and amendments	.20	
Spray and dust materials	.04	
State and county taxes	.02	
Miscellaneous	.02	
Total operating costs	.55	
Interest on grove valuation @ 6%	.13	
Total cost without owner's supervision	.68	
Returns per box:		
Returns from fruit	.74	
Net returns	.06	
Net returns above operating costs	.19	

* Returns not yet available.
** Less than $.005

FLORIDA CITRUS MUTUAL OUTLINED

(Continued from page 9)

to lose in trying it."

During the coming season, not less than 60 million boxes of Florida citrus fruit will be available for canning and processing. Sixty million cases of citrus products in cans to be marketed over a twelve month period means five million cases per month, but this is canned in about a six month period or ten million cases canned per month. We will can five million cases more per month than should be marketed during the canning months. This means that about thirty million cases will have to be financed in warehouses for distribution during the months that no canning is being done. It takes money to can this fruit and warehouse it. One prominent banker of the State estimates the amount needed in excess of 100 million dollars. This money is readily available from Florida bankers, if and when, the industry becomes organized. Listen again to the Bankers:

"If a statewide organization is not formed, if standards are not raised and not enforced, then we suggest that financing warehouse receipts, even at one-half of the current market will carry unusual risk hazards. If Mutual is formed, and the canners are included, and the movement to market of both fresh fruit and processed is controlled, so as to furnish only an orderly supply; if quality standards are adopted and enforced; then we believe Florida banks will find the financing of canner's warehouse inventories a perfectly safe and good bankable risk."

Many of the canners in Florida today are stating that they will can this year only on consignment basis, and as one Banker very forcibly stated: "It will be canned in the morning and marketed in the aft-

ernoon, and everybody can readily predict the consequence of that procedure."

If it were possible for me to reach the ear of every citrus grower in Florida, I would ask him: "Are you going to do something about it, or are you going to sit complacently by and wait for the crash that is bound to come?" Most of us have touched bottom in each of the past two seasons and unless rescue comes quickly, we are about to go down for the third time which may be the last for a great many.

Organization is the only answer and Florida Citrus Mutual is the only organization available. It has all the needed legal and chartered powers. The grower members will elect their own board of directors, twenty-one in number, two from each of the seven Citrus Commission districts and seven nominated by these fourteen, elected at the statewide annual meeting. But somebody says this is a grower board of directors and the problem is a marketing problem, what do growers, generally, know about citrus marketing? The answer is that this has been taken care of, inasmuch as, there is provided in Mutual an Executive Committee, each one of whom must be a representative of a handler, who has entered into a handler's contract with the association, and handler means any person, firm, association, corporation or other business unit engaged in any way or manner in handling, buying, packing, processing, canning, shipping and/or marketing of citrus fruits or products thereof for the account of the producer thereof, or for his or its own account, or both. The members of the Executive Committee shall be nominated by handlers who have entered into handler's contracts with the association, but shall be approved and elected by the board of directors of this association.

In this way, the Mutual Board of Directors is guaranteed the counsel of men trained, experienced, and skilled in marketing procedures, to direct the marketing plans and policies. Grower contracts are for ten years with the privilege of withdrawal during June of any one year, and no grower need hesitate whatsoever in signing a Mutual contract because it is purely and simply a grower organization whose only purpose is to endeavor to bring back and maintain prosperity among citrus growers.

C. Rouss May Heads Canners League

C. Rouss May, Bartow, Southern Manager for The Hills Brothers Company, was elected president of the Canners League of Florida for 1948-49, at the League's annual meeting October 27, Homer E. Hooks, secretary-manager, announced.

May, a veteran of 20 years in Florida citrus canning, served as president of the Florida Canners Association from 1945 to 1947. As incoming president of the League he succeeds C. Howard Sweatt, of Resco Products Co., Orlando.

George Gooding, Tampa, Florida division manager for the California Packing Corporation, was elected vice president to succeed May. All other officers were re-elected for another term, including J. Logan Bloodworth, Cherokee Products Co., Ft. Pierce, vice president; J. Adams Bruce, Bruce's Juices, Tampa, vice president; Charles McCartney, Stokely Foods, Inc., Tampa, treasurer; and Hooks as secretary-manager.

Sweatt told the League members in a brief report that the association had, since its organization last December, established itself in the industry as the recognized spokesman for the independent, cash-buyer canners who make up its membership.

Detailed activities of the League during the past year were outlined by Hooks, who predicted 1948-49 would be "a busy season of constructive action by the League for the whole industry."

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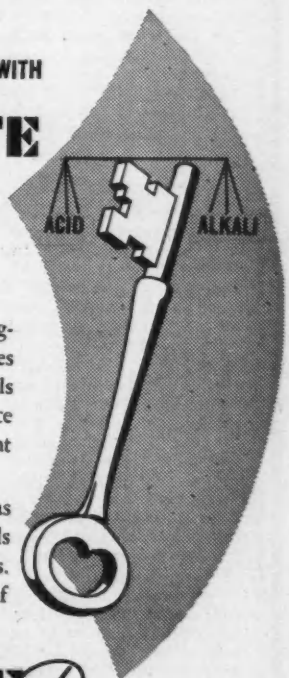

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Reports Of Our Field Men . . .

POLK COUNTY
J. M. (Jim) Sample

The water table is dropping since the rains have stopped but lakes are still very high and a great deal of surface water remains in the low areas. Rust mite and some purple and red scale are active again, but control measures are being applied. Many growers are planning the fall fertilizer application now and considerable thought is being given to supply an adequate fertilization and at the same time to hold cost down to a minimum. Practically all growers intend to fertilize this fall since they feel that the heavy crop plus loss from heavy rains have drained off the available food supplied in the application last summer. Most people feel that their fruit quality is much better than it has been for several years past, due to the improvement in their cultural program plus a normal early bloom and fine growing weather.

NORTH CENTRAL FLORIDA
V. E. (Val) Bourland

A considerable quantity of fruit is being moved from this territory through the process of spot picking and quite a few crops have been sold on the tree with the shipper having permission to pick only the fruit that can be shipped at this time. In the Apopka section we have one large caretaker that has been very successful in moving quite a large percentage of his early varieties of oranges and fortunately his sizes were such that most of the fruit could be moved from the tree in this initial picking. During the latter part of October a few crops of tangerines were moved at very good prices. In spite of the gloomy outlook we have a large number of growers taking an optimistic point of view and are of the opinion that with our excellent quality we should be able to move fruit during the season at a price that will show a profit. We certainly are in position in this territory to keep the market supplied with good fruit until late next summer, as our late bloom will apparently develop into excellent quality fruit.

WEST CENTRAL FLORIDA
E. A. (Mac) McCartney

From all that I can learn conditions in my territory are no different from most other sections of the state. We have an excellent crop of quality fruit, there is very little interest in buying fruit on the tree in a speculative manner, and the fruit that is moving either comes from the grove of a member of a coop or from some small crop bought on the tree to be spot picked and moved immediately. We are all extremely hopeful that conditions will improve as the season progresses. The vegetable growers in this territory are encouraged due to the storms and wet weather in the Southern part of the state and it looks as if these growers will have an advantage here this Fall. The prices have been good and the vegetable growers are in much better shape than the citrus men. There is a wide diversity of vegetables planted in this territory and it appears that the total acreage planted will be somewhat larger than last fall.

SOUTH POLK, HIGHLANDS AND HARDEE COUNTIES
R. L. (Bob) Padgett

The two storms that hit Florida during October did very little damage to citrus crops in this area. However , the vegetable growers and cattlemen have suffered tremendous losses. Water damage in the Lake Section was extensive and caused much delay in all plantings. Where crops had been planted they were completely destroyed and replanting is necessary. A large number of cattlemen have been forced to move their cattle to higher ground where grazing was poor and means a heavy loss in cattle weight. Citrus groves have benefitted from the excessive rains. Growers have finished chopping most of their cover crops and are beginning to think about their Fall application of fertilizer. There is a variance of opinion about the most economical procedure to follow as far as fertilizer is concerned, but most growers will make a Fall application of one mixture or another. Fruit is being moved and it is expected that the voulme flow to the packing houses will be increased during the next few weeks.

HILLSBOROUGH AND PINELLAS COUNTIES
C. S. (Charlie) Little

Oranges and grapefruit are being moved from this territory in good volume at the present time, but would probably be moving at a faster rate if we had maturity and there were no size limitations. Very little fruit is being sold on the tree and most of the shipments are on a consigned basis. Rust mite are still very prevalent with some growers having dusted as many as four times and are still finding infestations. Scale insects have been bad all season and we are losing a lot of fruit at this time from droppage caused by scale. We have had plentiful rains during past few weeks and are well supplied with soil moisture at this time. During August and September we had a heavy loss of fruit from splitting, but this condition has been greatly improved. The quality of our fruit is excellent. There will be some fertilizer applied in November, but the heavy application will be made in December and January.

SOUTHWEST FLORIDA
Eaves Allison

It looks at this writing as if the danger from excessive rainfall is over, unless another hurricane moves in this way. Summing up the damage done to crops in this territory due to the heavy rains we can say that it was not disastrous to the entire area. In the Ruskin-Sun City section there were spots that suffered very heavy losses, necessitating the replanting of some fields. The Palmetto-Manatee area had heavy losses, with some crops destroyed, but there is still a goodly acreage of crops pulling through. In the Ft. Myers section water damage was very heavy and continued high water has delayed the fall plantings well past the usual time. However, as their frost risk is much less down there they can expect to pull crops through on a later planting date than further north. Most groves in this section are receiving their Fall fertilizer as usual and some applications are going on at this time, although most growers are planning their application for November. Gladioli plantings are later than usual and seem to be in somewhat reduced acreage. Celery acreage is reported to be considerably reduced in the Sarasota area.

Frank Scruggs, market news specialist, of the State Marketing Bureau, in a report just off the press makes a statement about the conditions that prevailed durin' the last marketin' season, which ain't purty but sounds like it was plumb truthful . . . "There is little good to say about the season just passed except to say that it could have been a little worse for citrus and much worse for vegetables," he says. He points out that in the 1945-46 season Florida shipped 86,000,000 boxes of citrus fruit that grossed $235,230,-700, while in the 1947-48 season we increased our shipments to 91,100,-000 boxes, but had our gross income cut to $114,000,000.

This means that for 5,100,000 more boxes of fruit shipped last season we received only 46 per cent as much income, and this in spite of the fact that production costs, labor costs, marketing costs and material costs were at least as high in the past season as they were in the 1945-46 season. It seems that everyone was able to maintain price levels except the grower.

What is the answer?

One of the big reasons is that the growers of Florida are not organized and it appears that many of them do not care to be, but until some organized control of the situation is effected the growers are the ones who are going to pay the bills of those who have very little invested in Florida's citrus industry. With the large number of highly intelligent citrus men in the state it seems that we should be able to pick out some leader with foresight, ability and personality to get a sufficiently large number of growers and shippers together to remedy the catastrophic situation which faces us today, and put the Florida Citrus Industry on a paying basis. IT CAN BE DONE!

There is a growing interest in the possibility of large scale use of grapefruit as cattle feed. Quite a few growers and shipping organizations are planning extensive feeding experiments this winter in an effort to prove that the program is sound in a practical way. With the cattle industry becoming more important in Florida each year it seems like this plan can be mighty helpful to both the citrus grower and the cattle raiser.

Just a few weeks ago it seemed that the Florida fall vegetable crop would be mighty short, due to excessive rains that accompanied two tropical storms. But it's mighty hard to outsmart the Florida vegetable grower and it now seems that we'll have plenty of fresh vegetables on the market. Some sections suffered worse than others but you can bet your bottom dollar they will come back with their share of fresh vegetables to help supply the nation's table.

Uncle Bill

Industrial Commission Names Child Labor Supervisor

J. Douglas Hopkins, Jr., of Tallahassee, has been appointed Child Labor Supervisor of the Florida Industrial Commission.

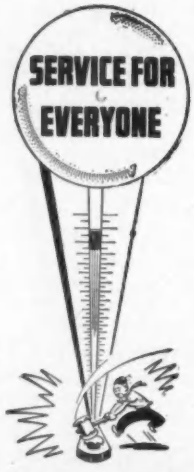
Carl B. Smith, Chairman of the Florida Industrial Commission which has the responsibility for administering Florida's Child Labor Law, stated that under the new plan for handling this protective law, the persons assigned to the division would administer only this one phase of the Commission's program and should thereby make the program more effective than ever.

In addition to an assistant, Hopkins will have two full time Child Labor supervisors, one in North Florida and one in South Florida.

The policy of the Commission in administering the Child Labor law is not to establish a record for prosecuting cases in criminal courts, but to secure compliance with the law without resort to courts. The majority of violations occur as a result of misunderstanding or lack of knowledge of the provisions of he law. Violations usually cease once the law is explained.

In speaking of the Florida Child Labor law, Smith said that it was not the purpose of the law or the policy of the Commission to prohibit the employment of youth except when such employment was injurious or hazardous.

According to the Florida Child Labor law, the minimum age in general employment is 16 with several exceptions. Minors of 12 years of age or older may be employed during the hours when the public schools are not in session or except between the hours of 8 p. m. and 6:30 a. m. In arriving at the total work week, which is 40 hours, hours in school must be included in the maximum count.



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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC. REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946, OF THE CITRUS INDUSTRY, PUBLISHED MONTHLY AT BARTOW, FLORIDA, FOR OCTOBER 1, 1948.

STATE OF FLORIDA,
COUNTY OF POLK.

Before me, a notary public in and for the State and county aforesaid, personally appeared S. Lloyd Frisbie, who having been duly sworn according to law, deposes an dsays that he is the Business Manager of The Citrus Industry and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March, 1933, embodied in Section 537, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher — Associated Publications Corp., Bartow, Fla.
Editor — S. L. Frisbie, Bartow, Fla.

2. That the owners are:
Associated Publications Corporation, Bartow, Florida.
S. L. Frisbie, Bartow, Fla.
S. Lloyd Frisbie, Bartow, Fla.
Loyal Frisbie, Bartow, Fla.
Richard R. Frisbie, Bartow, Fla.
B. L. Gable, New York, N. Y.
F. L. Skelly, Orlando, Fla.
B. W. Skinner, Dunedin, Fla.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are:
Mosel Preston, Auburndale, Fla.

4. That the two paragrahs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiducary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

S. LLOYD FRISBIE.
Business Manager

Sworn to and subscribed before me this 30th day of September, 1948.
(SEAL) Rhea L. Sutton,
Notary Public

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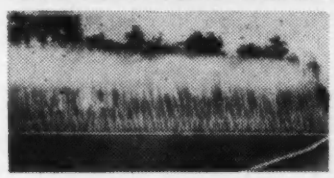

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